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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,381	01/29/2001	Youngjune L. Gwon	10745/9	1183

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EXAMINER

LEVITAN, DMITRY

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 07/07/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/772,381

Applicant(s)

GWON, YOUNGJUNE L.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____. |

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Amendment filed 01/08/02 has been entered. Claims 1-14 remain pending.

Drawings

1. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 500.

Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

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4. The disclosure is objected to because of the following informalities: missing application number on page 18 line 13; unfinished sentence on page 19 line 7 and undefined variables in equations 1-8. Appropriate correction is required.

5. The disclosure is objected to, because abbreviations or acronyms IETF, UCLA, TCP and ICMP are cited throughout the specification without explanation. Applicant should provide a full explanation for the acronyms at least at their first occurrence in the specification.

For example, abbreviation IETF was initially introduced on page 2 and explained on page 5.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 2-6, 13 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claims 2-4, how to predict the future location of mobile node using deterministic, stochastic or adaptive prediction, as equations 1-8 describing these processes lack numerous variables;

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Regarding claim 5, how to predict the future location of the mobile node using selected variable in the L3 network layer;

Regarding claim 13, means for predicting the mobility of said mobile node, means for comparing the mobility with new value, means for taking a desired action;

Regarding claim 14, means for locating a second router, means for pre-registering a new direct route and means for switching the connection to second fixed router.

The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 5, 6, 12, 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 limitation "transparently predicting" is unclear, because it is not well known term of the art or disclosed in the specification.

Claim 5 recites the limitation "the L3 network layer" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 12 and 13 limitation "comparing said predicted mobility to a ... value" is unclear, because mobility, as disclosed in the specification (pages 11 and 12), is a process and it is not understood how a process could be compared with a value.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (US 2002/0080752) in view of Chiu (**Predictive schemes for handoff prioritization in cellular networks based on mobile positioning**, Selected Areas in Communications, IEEE Journal on , Volume: 18 , Issue: 3 , March 2000 Pages: 510 - 522).

Regarding claim 1, Johansson substantially teaches the limitations of the claim:

A method of communicating in a wireless, mobile access digital data network having plurality of agents /routers for interfacing mobile nodes with the data network (Fig. 3a and 0035-0036), comprising:

Establishing a communication link between said mobile node (mobile node 3 on Fig. 3a and 3b, 0077) and said network via a first router/agent (agent 2a on Fig. 3b);

Establishing a communication link between correspondent node (correspondent node 4a on Fig. 3b) and said network via second router/agent (home agent 1 on Fig. 3b);

Establishing data communication between the mobile node and the correspondence node via a first data route including said first and second routers/agents (mobile IP tunnel 30a on Fig. 3a and 0074);

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Establishing a second data route for data communications between said mobile node and said correspondence node including said second and third routers/agents (agents 1 and 2b on Fig. 3b and 0077); and

Transferring said communication link between said mobile node and said network from first router to the third router (communicating between correspondent node 4a and mobile node 3 through IP tunnel 30b on Fig. 3b and 0077).

Johansson does not teach predicting the future location of mobile node and determining based on the prediction when the communication link should be transferred from first router to the third router.

Chiu teaches predicting the future location of mobile node (III. Predictive channel reservation on page 512) and determining based on the prediction when the communication link should be transferred from first router to the third router (Handoff from current cell to next cell on page 510).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add predicting the future location of mobile node and determining based on the prediction when the communication link should be transferred from first router to the third router of Chiu to the system of Johansson to improve the system end-to-end packet latency.

Regarding claims 7 and 8, Johansson teaches data communication as real time interactive multimedia communication including voice over IP (streaming video and voice over IP calls 0124).

Claims 9-~~10~~¹¹ are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson and Chiu in view of admitted prior art.

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Johansson and Chiu substantially teach all the limitations of the parent claim 1.

Johansson and Chiu do not teach using IMT-2000, Mobile IP version 4 and 6 standards.

Admitted prior art (current application page 5 lines 2-28) teaches using IMT-2000, Mobile IP version 4 and 6 standards in third generation data networks.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use IMT-2000, Mobile IP version 4 and 6 standards of admitted prior art in the system of Johansson and Chiu to improve the system compatibility with network equipment utilizing popular standards.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu in view of Johansson.

Chiu substantially teaches the limitations of claim:

In a wireless (cellular system, page 510) system, predicting a mobility of the mobile node relative to a first fixed agent (prediction of the motion of MS on page 512);

Comparing said predicted mobility to a predetermined threshold value (threshold distance on page 516);

If said predicted mobility meets or exceeds said threshold value, locating a second agent (starting handoff to next cell Fig. 1 and page 512);

Pre-registering said mobile node with second agent (sending a reservation request to a new BS on page 512);

Pre-establishing a new network data route between said mobile node and said correspondent node via second fixed agent (completing the handoff process to a new BS).

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Chiu does not teach routers/agents for interfacing the mobile nodes to the core network and switching the mobile node connection from one fixed agent to the other.

Johansson teaches routers/agents for interfacing the mobile nodes to the core network (agents 1 and 2 on Fig. 3b) and switching the mobile node connection from one fixed agent to the other (mobile IP tunnel 30b on Fig. 3b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add routers/agents for interfacing the mobile nodes to the core network and switching the mobile node connection from one fixed agent to the other of Johansson to the system of Chiu to use Internet as a core network in the system.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu and Johansson.

Chiu and Johansson substantially teach the limitations of claims 13 and 14, as shown in claim 12 rejection above.

Chiu and Johansson do not teach making a device utilizing the disclosed method.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make a device utilizing the disclosed method of Chiu and Johansson to implement the system.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Johansson US 20020080752A1 Route optimization technique for mobile IP.

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Ray US006424638B1 System and method for performing an inter mobile system handover using IP system.

Hsu US006674734B1 Scheme to relocate H.323 gatekeeper during a call when endpoint changes its zone.

Sauer US006252862B1 Method and apparatus for routing packet data in a communication system.

Su **Mobility prediction in wireless networks** MILCOM 2000. 21st Century Military Communications Conference Proceedings ,Volume: 1 , 22-25 Oct. 2000

Pages:491 - 495 vol.1

Chiu **Predictive schemes for handoff prioritization in cellular networks based on mobile positioning** Selected Areas in Communications, IEEE Journal on , Volume: 18, Issue: 3 , March 2000 Pages:510 – 522.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is 703-305-4384. The examiner can normally be reached on 8:30 to 4:30.

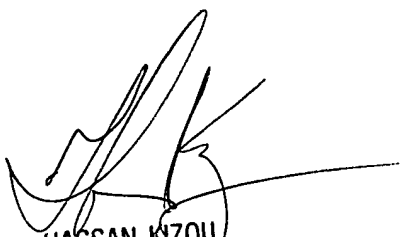
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan
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06/16/04.



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